

CLAIMS

1. An image reading apparatus comprising:

a light source arranged to emit light for illuminating a linear image reading region extending in a primary scanning direction;

5 a plurality of lenses arranged in an array for focusing light reflected on the image reading region and for producing reduced images, each of the lenses having an optical axis which intersects a predetermined portion of the image reading region;

10 a plurality of light receiving elements for output of image signals based on the light focused by the lenses; and

a light conductor for leading the light emitted by the light source toward the image reading region;

wherein the light conductor leads the emitted light so
15 that said predetermined portion is illuminated more brightly than other portions of the image reading region which are adjacent to said predetermined portion.

2. The apparatus according to claim 1, wherein the light conductor includes a transparent member having a first surface and a second surface, the first surface facing the light source, the second surface facing the image reading region,
5 the transparent member being arranged to lead light from the first surface to the second surface so that distribution of

light at the first surface is different from distribution of light at the second surface.

3. The apparatus according to claim 2, wherein the transparent member is formed with a plurality of indents facing the image reading region, each of the indents being provided with an inclined portion slanted relative to the first surface of the transparent member.

4. The apparatus according to claim 3, wherein the transparent member is formed with a plurality of projections facing the image reading region, each of the projections having a corner at which a cutout is provided.

5. The apparatus according to claim 3, wherein the light source includes a plurality of light-emitting diodes arranged in an array, the light-emitting diodes being offset in the primary scanning direction from the optical axes of the respective lenses.

6. The apparatus according to claim 5, wherein each of the light-emitting diodes is held in facing relation to a relevant one of the inclined portions of the indents.

7. The apparatus according to claim 1, further comprising a casing for supporting the light source, the lenses, the light receiving elements and the light conductor, the light

conductor protruding partially from the casing toward the image reading region.

8. The apparatus according to claim 2, wherein the first surface of the transparent member is formed with a convex portion facing the light source.

9. The apparatus according to claim 1, wherein the light conductor includes a first transparent member and a second transparent member.

10. The apparatus according to claim 9, wherein the first transparent member is provided with a light receiving surface facing the light source and a light emitting surface opposite to the light receiving surface, at least either one of the
5 light receiving surface and the light emitting surface being provided with a convex portion extending in the primary scanning direction.

11. The apparatus according to claim 10, wherein the second transparent member is formed separately from the first transparent member and arranged to lead light emitted from the light emitting surface toward the image reading region.

12. The apparatus according to 10, wherein both the light receiving surface and the light emitting surface of the first transparent member are convex.

13. The apparatus according to claim 10, wherein the second transparent member is provided with a light receiving surface held in facing relation to the light emitting surface of the first transparent member.

14. The apparatus according to claim 13, wherein the light receiving surface of the second transparent member is sinuous.

15. The apparatus according to claim 13, further comprising light shielding members arranged between the light emitting surface of the first transparent member and the light receiving surface of the second transparent member.

16. The apparatus according to claim 9, wherein the light source includes a plurality of light-emitting diodes arranged in an array, the light-emitting diodes being offset in the primary scanning direction from the optical axes of the
5 respective lenses.

17. The apparatus according to claim 9, wherein the first and the second transparent members are fixed to each other.

18. The apparatus according to claim 17, wherein the first transparent member is formed with a positioning groove, the second transparent member being formed with a leg portion fitted into the positioning groove of the first transparent
5 member.

19. A light conductor comprising:

a first surface for receiving light;

a second surface for allowing the light to exit; and

a plurality of indents defined by the second surface,
5 each indent being provided with an inclined portion slanted
relative to the first surface.

20. A light conductor comprising:

a first transparent member provided with a first light
receiving surface and a first light emitting surface opposite
the first light receiving surface, at least either one of the
5 first light receiving surface and the first light emitting
surface being formed with a convex portion; and

a second transparent member formed separately from the
first transparent member and provided with a second light
receiving surface held in facing relation to the first light
emitting surface of the first transparent member, the second
10 transparent member being also provided with a second light
emitting surface for allowing light to exit.